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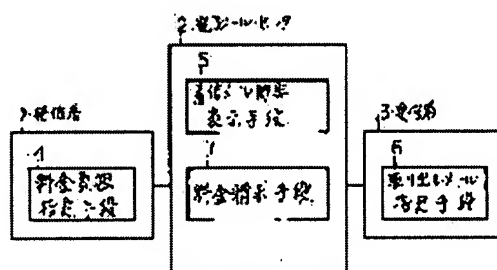
(21)Application number : 04-063670 (71)Applicant : FUJITSU LTD
(22)Date of filing : 19.03.1992 (72)Inventor : KUNIGAMI TOSHIO

(54) CHARGING SYSTEM FOR ELECTRONIC MAIL

(57)Abstract:

PURPOSE: To bear the communication charge of an electronic mail to an originator over whole transmission and reception by changing the bearing of communication charge between electronic mail center receivers to the originator.

CONSTITUTION: The originator 1 designates a charge bearing destination by a charge bearing designating means 4 after a designation ID number and inputs message contents. An electronic mail center 2 receives the destination ID number from the originator 1 and stores the destination and an originator ID number in a storage device inside the center 2. Then, the center 2 receives identification information of the charge bearing destination and stores it so that it receives the body of the mail and stores it together with numbering and reception time. The receiver 3 executes selection by a take-out mail designating means 6 based on displayed reception mail information. By this constitution, communication charge between the center receivers is born by the originator with a charge demanding means 7 by the setting of the originator and the receiver can decide reception/nonreception by the difference of charge bearing.



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CLAIMS

[Claim(s)]

[Claim 1] In the electronic mail system which transmits this electronic mail to this addressee 3 when the electronic mail which the addresser 1 sent is stored in the electronic mail center 2 and an addressee 3 requires A tariff burden assignment means 1 to specify any shall pay the receiving tariff of the electronic mail which an addresser 1 sends between an addresser 1 or an addressee 3, When an addressee 3 demands the outline of arrival-of-the-mail mail from the electronic mail center 2 About the electronic mail to this addressee 3, to the information and dispatch time amount of a sending agency, and the information on the capacity of an electronic mail, in addition, an arrival-of-the-mail mail outline display means 5 to display the information of the burden person of a receiving tariff, An ejection mail assignment means 6 to specify the mail with which an addressee 3 takes out the information of the burden person of a sending agency, capacity, and a receiving tariff as a decision ingredient with reference to the arrival-of-the-mail mail outline display by said arrival-of-the-mail mail outline display means 5, In the receiving tariff of the electronic mail which the addressee 3 received, the information of the burden person of the receiving tariff displayed on said arrival-of-the-mail mail outline display means 5 is followed. The tariff method of the electronic mail characterized by having the billing means 7 which asks an addressee 3 for when a burden person is an addressee 3, and is changed for an addresser 1 when a burden person is an addresser 1.

[Claim 2] The tariff method of the electronic mail characterized by changing the receiving tariff of mail of an addressee 3 automatically two or more of the addressers 2 of every when an addressee 3 takes out at once two or more mails with which the addressers 2 who are the tariff methods of an electronic mail according to claim 1, and were accumulated in the electronic mail center 2 differ.

[Claim 3] The tariff method of the electronic mail characterized by adding to the receiving tariff which ejection took and notifying an addresser 1 of the ejection time by the addressee 3 when an addressee 3 takes out the electronic mail of addresser 1 burden which are claim 1 and the tariff method of an electronic mail according to claim 2, and was accumulated in the electronic mail center 2.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the tariff method of an electronic mail. Furthermore, it is related with the tariff method of the electronic mail which makes it possible to change the receiving tariff of an electronic mail for an addresser in detail.

[0002]

[Description of the Prior Art] Drawing 10 is the system configuration Fig. of an electronic mail system. When sending an electronic mail by personal computer communications, generally the mail which the addresser 1 transmitted through the communication line 10 is accumulated in the storage 11 of the center (electronic mail center) 2 of personal computer communications. Then, when the addressee 3 of the destination accesses a center 2, how many copies of arrival of that mail is got to know, and processing which takes out e-mail to its own terminal is performed.

[0003] Here, when it sees about the tariff of an electronic mail, the addresser 1 -> center 2 is an addresser burden. The tariff which, on the other hand, starts the center 2 -> addressee 3 has a common addressee burden conventionally.

[0004]

[Problem(s) to be Solved by the Invention] However, the view that an addressee pays the center 2 -> addressee's 3 tariff has the problem that the usual communication link gives an addressee disadvantageous profit in respect of a tariff compared with the view of an addresser burden over the entire interval of END TO END.

[0005] This invention aims at offering the method which makes it possible to make the communication link tariff of an electronic mail an addresser burden over a transmit receive at large.

[0006]

[Means for Solving the Problem] The functional block diagram of this invention is shown in drawing 1. In this invention, the mail which the addresser 1 sent is once accumulated in the storage of the electronic mail center 2, and when the addressee 3 of the destination accesses the electronic mail center 2, it is premised on the electronic mail system which transmits e-mail to an addressee 3.

[0007] First, an addresser 1 has the tariff burden assignment means 4. The tariff burden assignment means 4 makes an addresser 1 specify whether transmitting processing between the electronic mail center 2-addressees 3 of this mail is performed at an addresser burden, or it carries out at the addressee burden 3 on the occasion of e-mail transmission of an addresser 1, and sends the assignment information to the electronic mail center 2.

[0008] In the electronic mail center 2, there is an arrival-of-the-mail mail outline display means 5, and when an addressee 3 accesses the electronic mail center 2, the arrival-of-the-mail mail outline which consists of information which distinguishes the addresser burden or addressee burden specified with an addresser, submission time, capacity, and said tariff burden assignment means 4 is displayed to an addressee 3 about the mail accumulated.

[0009] An addressee 3 takes out and has the e-mail assignment means 6. The ejection mail assignment

means 6 specifies the mail which takes out an addresser, the information on capacity and a tariff burden, etc. to reference with reference to the arrival-of-the-mail mail outline displayed by said arrival-of-the-mail mail outline display means 5.

[0010] Finally, the electronic mail center 2 has the billing means 7. The billing means 7 asks an addressee for the tariff between the electronic mail center 2-addressees 3, when the tariff burden specified with said tariff burden assignment means 4 about the mail which the addressee 3 took out is an addressee, when a tariff burden is an addresser, changes this tariff for an addresser and charges a tariff.

[0011]

[Function] Next, the operation of a functional block diagram shown in drawing 1 is explained. When transmitting e-mail, in addition to a destination name and the contents of e-mail, an addresser 1 specifies into any the tariff burden between the electronic mail-center 2-addressees 3 shall be made between an addresser 1 and an addressee 3 through the tariff burden assignment means 4, and sends to the electronic mail center 2.

[0012] In addition to information, such as an addresser name, a destination name, submission time, and the contents of e-mail, in the electronic mail center 2, the information on tariff burden assignment is accumulated in response to the information on the tariff burden specified by the tariff burden assignment means 4. And to an addressee 3, the purport in which arrival-of-the-mail mail exists is notified.

[0013] An addressee 3 accesses the electronic mail center 2 in response to the notice of arrival-of-the-mail mail **. The arrival-of-the-mail mail outline display means 5 of the electronic mail center 2 transmits and displays the information about the outline about the accumulated arrival-of-the-mail mail, i.e., an addresser name and submission time, e-mail capacity, and a tariff burden on an addressee 3 to an addressee's 3 access.

[0014] An addressee 3 specifies the mail taken out with the ejection mail assignment means 6 with reference to the arrival-of-the-mail mail outline displayed by the arrival-of-the-mail mail outline display means 5, and notifies to the electronic mail center 2.

[0015] The electronic mail center 2 transmits the mail specified by the ejection mail assignment means 6 to an addressee 3. Then, the billing means 7 is started, when assignment by said tariff burden assignment means 4 is an addressee burden, an addressee 3 is asked for the communication link tariff between the electronic mail center 2-addressees 3, and in an addresser burden, an addresser 1 is asked for it.

[0016]

[Example] Next, an example is explained. The electronic mail system of this example is realizable with the system configuration of drawing 10 explained by the conventional method, and the same configuration. That is, it can constitute from two or more computers, such as a personal computer connected to the electronic mail center which consists of computers with external storage, such as a workstation and a minicomputer, and this electronic mail center through the communication line.

[0017] Drawing 2 is the explanatory view of the contents of e-mail of the addresser of one example. An addresser 1 transmits an electronic mail from an own terminal. First, the electronic mail text is preceded and it is ID (DEST.ID=BBB456) of the destination as usual. It gives. Furthermore, at this example, it is the exception (CHARG) of a tariff burden place. It inputs. It is CHARG=ORG when an addresser pays a tariff. It carries out, and when an addressee pays a tariff, it considers as CHARG=DEST.

[0018] The tariff in this case is a use tariff of an e-mail system, and it is different from circuit tolls, such as NTT. The e-mail text is placed after that. If this mail is sent to the electronic mail center 2, from the electronic mail center 2, e-mail **** according to addresser attached to this mail and the registration time amount of the electronic mail center 2 will be returned and displayed on an addresser's 1 terminal.

[0019] Drawing 3 is the explanatory view of e-mail reception of the receiving side of one example. The time of an electronic mail being received in the electronic mail center 2, or when an addressee 3 works a terminal, the message of the purport in which arrival-of-the-mail mail exists is displayed on an addressee's 3 terminal (this drawing (a)). The message that there are three copies of arrival-of-the-mail mails by a diagram is displayed. An addressee 3 looks at this message and supplies the viewing command (arrival-of-the-mail detail command) of an arrival-of-the-mail mail outline. This command is sent to the electronic mail center 2, and the electronic mail center 2 returns the outline of arrival-of-the-

mail mail, and displays it on a terminal.

[0020] This drawing (a) is an example of a display when an addressee refers for the situation of arrival-of-the-mail mail to a center. In this case, the outline of three copies of mails is displayed. The leftmost is the identification number of e-mail and then the exception of a tariff burden is displayed. That is, O shows an addresser and D shows an addressee. Next, the arrival-of-the-mail time from other Outlines ID, for example, addresser, and addressers to a center, e-mail **** according to addresser, and the capacity of e-mail are displayed.

[0021] An addressee 3 can see this e-mail outline, and can specify the mail to receive. In this case, the tariff burden specifies an addresser's mail No. 1 and No.'s 2 (READ 1, 2). An electronic mail system 2 sends only the specified mail of No. 1 and No. 2 to an addressee 3.

[0022] After sending assignment mail, an electronic mail system 2 sends the arrival-of-the-mail acknowledge request of e-mail to an addressee's 3 terminal (this drawing (b)). An addressee 3 is an arrival-of-the-mail acknowledge signal (O.K.), when the mail specified correctly is displayed. It returns to a system.

[0023] Drawing 4 is the explanatory view of billing at the time of performing the above-mentioned electronic mail transmission. The timing diagram of an electronic mail transfer is shown in this drawing (a). The mail transfer from the electronic mail center 2 to an addressee 3 is started when an addressee 3 issues an e-mail ejection instruction (READ 1, 2). first, the specified mail of No. 1 -- time of day T1 from -- it is transmitted. The time amount which the transfer took is T1 -T2. It is time amount A. Moreover, after that, time of day T2 - T3 Mail of No. 2 is transmitted. The transfer time is B. The electronic mail center 2 sends an e-mail arrival acknowledge request to an addressee 3 after the mail transfer of No. 1 and No. 2. If a message is correctly received to this acknowledge request, it OKs, and an addressee will supply NG and an arrival-of-the-mail check, if he is not right. In this case, the arrival-of-the-mail check O.K. is supplied after the time amount C after the completion of reception. After the mail transfer, even if it carries out fixed time amount progress, even when [a certain] an addressee 3 does not send an arrival-of-the-mail check to the electronic mail center 2, if there is no communication link error, it should be regarded as what received a message correctly.

[0024] The electronic mail center 2 computes and memorizes a tariff after an arrival-of-the-mail check (this drawing (b)). Since both mails transmitted in this drawing (a) are the tariff burdens by the side of an addresser, as shown in this drawing (b), ID which should be charged becomes the addresser side ID. That is, the mail transfer tariff of the section of A carries out billing of addresser ID=AAA123 and the mail transfer tariff of the section of B so that it may attach to addresser ID=XXX983. In addition, the time in which e-mail **** according to addresser, Addressee ID, and the addressee received e-mail, the duration which the transfer between electronic mail pin center, large addressees took are summarized as a list, and is accumulated in the storage in an electronic mail center.

[0025] In the electronic mail center, in addition to the transfer tariff from an addresser to a center, the e-mail ejection tariff of an addressee as shows drawing 4 (b) is added, and an addresser is charged. Moreover, to an addressee, the e-mail ejection tariff of the contents shown in this drawing (b) is subtracted from the tariff which carries out necessary to a series of actuation of the ejection of arrival-of-the-mail mail, and an action addressee is charged.

[0026] Of course, although an addressee may pay an ejection tariff, the function to refuse the ejection of e-mail is also possible. The "elimination" actuation of the transceiver actuation of the usual mail performs refusal.

[0027] Hereafter, a control flow in dispatch of an electronic mail, reception, and accounting is explained along with a flow chart. Drawing 5 is a control flow chart at the time of electronic mail dispatch.

[0028] As shown in drawing 2, an addresser inputs a destination ID number, a tariff burden place, and a description in order. In the electronic mail center 2, it is an addresser 1 to a destination ID number (BBB456). It receives and memorizes to the storage in a center (S1). Next, the ID number when accessing to the electronic mail center 2 to an addresser's ID number (AAA123) It identifies and this is also memorized to the storage in a center. (S2).

[0029] Next, the identification information of a tariff burden place is received from an addresser (S3).

Here, for example, when it is specified as DEST, it considers as an addresser burden, and when the identification information input of a tariff burden place is omitted, it shall consider as an addresser burden. the electronic mail center 2 -- a tariff burden place identification number -- abbreviation ***** -- judging -- (S4) the case where it is omitted -- addresser burden (O) ***** -- it memorizes to the storage in a center (S5). When specifying it as DEST on the other hand, without omitting, it is a destination burden (D). It carries out and memorizes to the storage in a center (S6).

[0030] Reception and this also memorize the e-mail text (message body) from an addresser to the storage in a center after ending tariff burden assignment processing (S7). Next, while attaching **** of the mail which the addresser transmitted and notifying an addresser of this ****, it memorizes to the storage in a center (S8). And finally, while notifying an addresser of the registration time amount of this mail, it stores in the storage in a center (S9).

[0031] An electronic mail center sends the message which shows that e-mail exists to the addressee of destination ID after the above e-mail receptionist processing. On the other hand, an addressee advances the outline display demand of e-mail.

[0032] Drawing 6 is the control flow chart of the arrival-of-the-mail mail outline display to an e-mail addressee. If an e-mail addressee accesses an electronic mail center, Addressee ID will be accessed first at storage at a key (S10). And the tariff burden about the searched mail, an addresser ID number, the arrival-of-the-mail time amount to the center of this mail, and the information on e-mail **** according to addresser are taken out, and it sends and displays on an addressee's terminal (S11). Moreover, the capacity of the contents of e-mail is computed and displayed (S12). In this example, the line count of e-mail is displayed as an example.

[0033] The outline of mail of one is displayed by the above processing (S10-S12). All the arrival-of-the-mail mail information accumulated in the storage in the electronic mail center 2 is hereafter retrieved for Addressee ID to a key, and it is S10 -S12. Processing informs this addressee of all one addressee's arrival-of-the-mail mails (S13).

[0034] An addressee inputs the command for choosing and reading the mail which I have transmitted based on the information on the displayed arrival-of-the-mail mail. That is, they are READ 1 in drawing 3 (a), and the command of 2.

[0035] In the electronic mail center, processing which transmits the selected mail is performed in response to this command. Drawing 7 is the control flow chart of the mail transfer from a center to an addressee.

[0036] In response to the fact that a command READ 1 and 2, the processing which takes out and transmits the 1st mail of an arrival-of-the-mail mail outline display is started first (S20). At this time, the transfer start time to an addressee is detected and it adds to the last of the storage location of this mail of mail administration storage of the storage in a center (S21). This mail is transmitted to the last and transfer processing is completed (S22). Next, a transfer finish time is detected and it adds to the last of the storage location of this mail of mail administration storage of the storage in a center like start time (S23).

[0037] Next, a command READ 1 and 2nd mail of 2 are transmitted like the 1st case (S24-S27). By the above processing, a transfer of the mail in which the addressee did command assignment is completed.

[0038] It goes into the return waiting state of the arrival-of-the-mail check O.K. from an addressee after transfer termination (S28). when the arrival-of-the-mail check O.K. is not inputted, to (NO), it judges whether fixed time amount passed (S29) -- it waits for return of the check O.K. of the (NO) addressee until fixed time amount passes (S28). When the arrival-of-the-mail check O.K. is inputted (YES of S28), it moves to processing of billing. Moreover, when fixed time amount passes, with no arrival-of-the-mail check (YES of S29), it considers with an EQC that the arrival-of-the-mail check O.K. was sent from the addressee, and moves to processing of billing. In advance of billing, the information on the purport which had an arrival-of-the-mail check in the last of the storage location of this mail of the mail administration storage in the storage of an electronic mail center is written in (S30).

[0039] The data origination for billing is started after this processing. That is, Addresser ID, e-mail ****, and an action addressee ID are read according to the 1st and the 2nd mail from mail

administration storage, and it memorizes to the storage for billing (S31). Furthermore, it memorizes to the storage region for billing by making difference of transfer start time and transfer end time into a transfer duration, reading transfer start time and transfer end time according to the 1st and the 2nd mail, and using transfer end time as e-mail arrival time (S32).

[0040] The above is a procedure at the time of an addressee taking out e-mail. Next, the flow of billing processing is explained. Drawing 8 is the control flow chart of billing.

[0041] The storage region for billing in the storage of an electronic mail center is accessed. First, a bill is drawn up for every ID which should charge a tariff (S40). In the case of the above-mentioned example, the bill of AAA123 and XXX983 is drawn up. Consequently, drawing 9 (a) and a bill as shown in (b) are done.

[0042] Next, the bill in which the purport which reduces the tariff between pin center, large addressees about the mail which this reception ID received is shown is drawn up to the reception ID at the time of asking an addresser for a communication link tariff (S41). Consequently, the bill of drawing 9 (c) is done.

[0043] And the mail transfer from an addresser to an electronic mail center, the tariff about e-mail reception actuation of an addressee, and the above-mentioned communication link tariff (drawing 9 (a) - (c)) concerning e-mail reception are added together at the last, and the bill synthesized for every ID is drawn up (S42).

[0044] It becomes possible to ask an addresser for the electronic mail communication link tariff between the addresser-addressees of an electronic mail altogether by the above processing if needed.

[0045]

[Effect of the Invention] According to this invention, the communication link tariff between pin center, large addressees can be made an addresser burden by setup of an addresser, and it enables an addressee to determine reception / un-receiving therefore independently [a tariff burden]. [of an electronic mail] If it is an addresser's tariff burden, an addressee does not need to receive the disadvantageous profit to which an addressee pays the tariff which he does not mean, even if it compares and is long mail. In mail of a direct mail format, the ejection tariff of the mail from a center has a dispatch person, and ** and an addressee can read e-mail in comfort. Moreover, according to this invention, the message from many addressers is received at once, and a replacement of a tariff is possible to each addresser. Moreover, it is possible to notify an addressee's receiving time according to the contents of a claim to an addresser, and the check of whether to have received a message is also attained.

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TECHNICAL FIELD

[Industrial Application] This invention relates to the tariff method of an electronic mail. Furthermore, it is related with the tariff method of the electronic mail which makes it possible to change the receiving tariff of an electronic mail for an addresser in detail.

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PRIOR ART

[Description of the Prior Art] Drawing 10 is the system configuration Fig. of an electronic mail system. When sending an electronic mail by personal computer communications, generally the mail which the addresser 1 transmitted through the communication line 10 is accumulated in the storage 11 of the center (electronic mail center) 2 of personal computer communications. Then, when the addressee 3 of the destination accesses a center 2, how many copies of arrival of that mail is got to know, and processing which takes out e-mail to its own terminal is performed.

[0003] Here, when it sees about the tariff of an electronic mail, the addresser 1 -> center 2 is an addresser burden. The tariff which, on the other hand, starts the center 2 -> addressee 3 has a common addressee burden conventionally.

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EFFECT OF THE INVENTION

[Effect of the Invention] According to this invention, the communication link tariff between pin center,large addressees can be made an addresser burden by setup of an addresser, and it enables an addressee to determine reception / un-receiving therefore independently [a tariff burden]. [of an electronic mail] If it is an addresser's tariff burden, an addressee does not need to receive the disadvantageous profit to which an addressee pays the tariff which he does not mean, even if it compares and is long mail. In mail of a direct mail format, the ejection tariff of the mail from a center has a dispatch person, and ** and an addressee can read e-mail in comfort. Moreover, according to this invention, the message from many addressers is received at once, and a replacement of a tariff is possible to each addresser. Moreover, it is possible to notify an addressee's receiving time according to the contents of a claim to an addresser, and the check of whether to have received a message is also attained.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, the view that an addressee pays the center 2 -> addressee's 3 tariff has the problem that the usual communication link gives an addressee disadvantageous profit in respect of a tariff compared with the view of an addresser burden over the entire interval of END TO END.

[0005] This invention aims at offering the method which makes it possible to make the communication link tariff of an electronic mail an addresser burden over a transmit receive at large.

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MEANS

[Means for Solving the Problem] The functional block diagram of this invention is shown in drawing 1. In this invention, the mail which the addresser 1 sent is once accumulated in the storage of the electronic mail center 2, and when the addressee 3 of the destination accesses the electronic mail center 2, it is premised on the electronic mail system which transmits e-mail to an addressee 3.

[0007] First, an addresser 1 has the tariff burden assignment means 4. The tariff burden assignment means 4 makes an addresser 1 specify whether transmitting processing between the electronic mail center 2-addressees 3 of this mail is performed at an addresser burden, or it carries out at the addressee burden 3 on the occasion of e-mail transmission of an addresser 1, and sends the assignment information to the electronic mail center 2.

[0008] In the electronic mail center 2, there is an arrival-of-the-mail mail outline display means 5, and when an addressee 3 accesses the electronic mail center 2, the arrival-of-the-mail mail outline which consists of information which distinguishes the addresser burden or addressee burden specified with an addresser, submission time, capacity, and said tariff burden assignment means 4 is displayed to an addressee 3 about the mail accumulated.

[0009] An addressee 3 takes out and has the e-mail assignment means 6. The ejection mail assignment means 6 specifies the mail which takes out an addresser, the information on capacity and a tariff burden, etc. to reference with reference to the arrival-of-the-mail mail outline displayed by said arrival-of-the-mail mail outline display means 5.

[0010] Finally, the electronic mail center 2 has the billing means 7. The billing means 7 asks an addressee for the tariff between the electronic mail center 2-addressees 3, when the tariff burden specified with said tariff burden assignment means 4 about the mail which the addressee 3 took out is an addressee, when a tariff burden is an addresser, changes this tariff for an addresser and charges a tariff.

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OPERATION

[Function] Next, the operation of a functional block diagram shown in drawing 1 is explained. When transmitting e-mail, in addition to a destination name and the contents of e-mail, an addresser 1 specifies into any the tariff burden between the electronic mail-center 2-addressees 3 shall be made between an addresser 1 and an addressee 3 through the tariff burden assignment means 4, and sends to the electronic mail center 2.

[0012] In addition to information, such as an addresser name, a destination name, submission time, and the contents of e-mail, in the electronic mail center 2, the information on tariff burden assignment is accumulated in response to the information on the tariff burden specified by the tariff burden assignment means 4. And to an addressee 3, the purport in which arrival-of-the-mail mail exists is notified.

[0013] An addressee 3 accesses the electronic mail center 2 in response to the notice of arrival-of-the-mail mail **. The arrival-of-the-mail mail outline display means 5 of the electronic mail center 2 transmits and displays the information about the outline about the accumulated arrival-of-the-mail mail, i.e., an addresser name and submission time, e-mail capacity, and a tariff burden on an addressee 3 to an addressee's 3 access.

[0014] An addressee 3 specifies the mail taken out with the ejection mail assignment means 6 with reference to the arrival-of-the-mail mail outline displayed by the arrival-of-the-mail mail outline display means 5, and notifies to the electronic mail center 2.

[0015] The electronic mail center 2 transmits the mail specified by the ejection mail assignment means 6 to an addressee 3. Then, the billing means 7 is started, when assignment by said tariff burden assignment means 4 is an addressee burden, an addressee 3 is asked for the communication link tariff between the electronic mail center 2-addressees 3, and in an addresser burden, an addresser 1 is asked for it.

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EXAMPLE

[Example] Next, an example is explained. The electronic mail system of this example is realizable with the system configuration of drawing 10 explained by the conventional method, and the same configuration. That is, it can constitute from two or more computers, such as a personal computer connected to the electronic mail center which consists of computers with external storage, such as a workstation and a minicomputer, and this electronic mail center through the communication line.

[0017] Drawing 2 is the explanatory view of the contents of e-mail of the addresser of one example. An addresser 1 transmits an electronic mail from an own terminal. First, the electronic mail text is preceded and it is ID (DEST.ID=BBB456) of the destination as usual. It gives. Furthermore, at this example, it is the exception (CHARG) of a tariff burden place. It inputs. It is CHARG=ORG when an addresser pays a tariff. It carries out, and when an addressee pays a tariff, it considers as CHARG=DEST.

[0018] The tariff in this case is a use tariff of an e-mail system, and it is different from circuit tolls, such as NTT. The e-mail text is placed after that. If this mail is sent to the electronic mail center 2, from the electronic mail center 2, e-mail **** according to addresser attached to this mail and the registration time amount of the electronic mail center 2 will be returned and displayed on an addresser's 1 terminal.

[0019] Drawing 3 is the explanatory view of e-mail reception of the receiving side of one example. The time of an electronic mail being received in the electronic mail center 2, or when an addressee 3 works a terminal, the message of the purport in which arrival-of-the-mail mail exists is displayed on an addressee's 3 terminal (this drawing (a)). The message that there are three copies of arrival-of-the-mail mails by a diagram is displayed. An addressee 3 looks at this message and supplies the viewing command (arrival-of-the-mail detail command) of an arrival-of-the-mail mail outline. This command is sent to the electronic mail center 2, and the electronic mail center 2 returns the outline of arrival-of-the-mail mail, and displays it on a terminal.

[0020] This drawing (a) is an example of a display when an addressee refers for the situation of arrival-of-the-mail mail to a center. In this case, the outline of three copies of mails is displayed. The leftmost is the identification number of e-mail and then the exception of a tariff burden is displayed. That is, O shows an addresser and D shows an addressee. Next, the arrival-of-the-mail time from other Outlines ID, for example, addresser, and addressers to a center, e-mail **** according to addresser, and the capacity of e-mail are displayed.

[0021] An addressee 3 can see this e-mail outline, and can specify the mail to receive. In this case, the tariff burden specifies an addresser's mail No. 1 and No.'s 2 (READ 1, 2). An electronic mail system 2 sends only the specified mail of No. 1 and No. 2 to an addressee 3.

[0022] After sending assignment mail, an electronic mail system 2 sends the arrival-of-the-mail acknowledge request of e-mail to an addressee's 3 terminal (this drawing (b)). An addressee 3 is an arrival-of-the-mail acknowledge signal (O.K.), when the mail specified correctly is displayed. It returns to a system.

[0023] Drawing 4 is the explanatory view of billing at the time of performing the above-mentioned electronic mail transmission. The timing diagram of an electronic mail transfer is shown in this drawing (a). The mail transfer from the electronic mail center 2 to an addressee 3 is started when an addressee 3

issues an e-mail ejection instruction (READ 1, 2). first, the specified mail of No. 1 -- time of day T1 from -- it is transmitted. The time amount which the transfer took is T1 -T2. It is time amount A. Moreover, after that, time of day T2 - T3 Mail of No. 2 is transmitted. The transfer time is B. The electronic mail center 2 sends an e-mail arrival acknowledge request to an addressee 3 after the mail transfer of No. 1 and No. 2. If a message is correctly received to this acknowledge request, it OKs, and an addressee will supply NG and an arrival-of-the-mail check, if he is not right. In this case, the arrival-of-the-mail check O.K. is supplied after the time amount C after the completion of reception. After the mail transfer, even if it carries out fixed time amount progress, even when [a certain] an addressee 3 does not send an arrival-of-the-mail check to the electronic mail center 2, if there is no communication link error, it should be regarded as what received a message correctly.

[0024] The electronic mail center 2 computes and memorizes a tariff after an arrival-of-the-mail check (this drawing (b)). Since both mails transmitted in this drawing (a) are the tariff burdens by the side of an addresser, as shown in this drawing (b), ID which should be charged becomes the addresser side ID. That is, the mail transfer tariff of the section of A carries out billing of addresser ID=AAA123 and the mail transfer tariff of the section of B so that it may attach to addresser ID=XXX983. In addition, the time in which e-mail **** according to addresser, Addressee ID, and the addressee received e-mail, the duration which the transfer between electronic mail pin center, large addressees took are summarized as a list, and is accumulated in the storage in an electronic mail center.

[0025] In the electronic mail center, in addition to the transfer tariff from an addresser to a center, the e-mail ejection tariff of an addressee as shows drawing 4 (b) is added, and an addresser is charged. Moreover, to an addressee, the e-mail ejection tariff of the contents shown in this drawing (b) is subtracted from the tariff which carries out necessary to a series of actuation of the ejection of arrival-of-the-mail mail, and an action addressee is charged.

[0026] Of course, although an addressee may pay an ejection tariff, the function to refuse the ejection of e-mail is also possible. The "elimination" actuation of the transceiver actuation of the usual mail performs refusal.

[0027] Hereafter, a control flow in dispatch of an electronic mail, reception, and accounting is explained along with a flow chart. Drawing 5 is a control flow chart at the time of electronic mail dispatch.

[0028] As shown in drawing 2, an addresser inputs a destination ID number, a tariff burden place, and a description in order. In the electronic mail center 2, it is an addresser 1 to a destination ID number (BBB456). It receives and memorizes to the storage in a center (S1). Next, the ID number when accessing to the electronic mail center 2 to an addresser's ID number (AAA123) It identifies and this is also memorized to the storage in a center. (S2).

[0029] Next, the identification information of a tariff burden place is received from an addresser (S3). Here, for example, when it is specified as DEST, it considers as an addresser burden, and when the identification information input of a tariff burden place is omitted, it shall consider as an addresser burden. the electronic mail center 2 -- a tariff burden place identification number -- abbreviation ***** -- judging -- (S4) the case where it is omitted -- addresser burden (O) ***** -- it memorizes to the storage in a center (S5). When specifying it as DEST on the other hand, without omitting, it is a destination burden (D). It carries out and memorizes to the storage in a center (S6).

[0030] Reception and this also memorize the e-mail text (message body) from an addresser to the storage in a center after ending tariff burden assignment processing (S7). Next, while attaching **** of the mail which the addresser transmitted and notifying an addresser of this ****, it memorizes to the storage in a center (S8). And finally, while notifying an addresser of the registration time amount of this mail, it stores in the storage in a center (S9).

[0031] An electronic mail center sends the message which shows that e-mail exists to the addressee of destination ID after the above e-mail receptionist processing. On the other hand, an addressee advances the outline display demand of e-mail.

[0032] Drawing 6 is the control flow chart of the arrival-of-the-mail mail outline display to an e-mail addressee. If an e-mail addressee accesses an electronic mail center, Addressee ID will be accessed first at storage at a key (S10). And the tariff burden about the searched mail, an addresser ID number, the

arrival-of-the-mail time amount to the center of this mail, and the information on e-mail **** according to addresser are taken out, and it sends and displays on an addressee's terminal (S11). Moreover, the capacity of the contents of e-mail is computed and displayed (S12). In this example, the line count of e-mail is displayed as an example.

[0033] The outline of mail of one is displayed by the above processing (S10-S12). All the arrival-of-the-mail mail information accumulated in the storage in the electronic mail center 2 is hereafter retrieved for Addressee ID to a key, and it is S10 -S12. Processing informs this addressee of all one addressee's arrival-of-the-mail mails (S13).

[0034] An addressee inputs the command for choosing and reading the mail which I have transmitted based on the information on the displayed arrival-of-the-mail mail. That is, they are READ 1 in drawing 3 (a), and the command of 2.

[0035] In the electronic mail center, processing which transmits the selected mail is performed in response to this command. Drawing 7 is the control flow chart of the mail transfer from a center to an addressee.

[0036] In response to the fact that a command READ 1 and 2, the processing which takes out and transmits the 1st mail of an arrival-of-the-mail mail outline display is started first (S20). At this time, the transfer start time to an addressee is detected and it adds to the last of the storage location of this mail of mail administration storage of the storage in a center (S21). This mail is transmitted to the last and transfer processing is completed (S22). Next, a transfer finish time is detected and it adds to the last of the storage location of this mail of mail administration storage of the storage in a center like start time (S23).

[0037] Next, a command READ 1 and 2nd mail of 2 are transmitted like the 1st case (S24-S27). By the above processing, a transfer of the mail in which the addressee did command assignment is completed.

[0038] It goes into the return waiting state of the arrival-of-the-mail check O.K. from an addressee after transfer termination (S28). when the arrival-of-the-mail check O.K. is not inputted, to (NO), it judges whether fixed time amount passed (S29) -- it waits for return of the check O.K. of the (NO) addressee until fixed time amount passes (S28). When the arrival-of-the-mail check O.K. is inputted (YES of S28), it moves to processing of billing. Moreover, when fixed time amount passes, with no arrival-of-the-mail check (YES of S29), it considers with an EQC that the arrival-of-the-mail check O.K. was sent from the addressee, and moves to processing of billing. In advance of billing, the information on the purport which had an arrival-of-the-mail check in the last of the storage location of this mail of the mail administration storage in the storage of an electronic mail center is written in (S30).

[0039] The data origination for billing is started after this processing. That is, Addresser ID, e-mail ****, and an action addressee ID are read according to the 1st and the 2nd mail from mail administration storage, and it memorizes to the storage for billing (S31). Furthermore, it memorizes to the storage region for billing by making difference of transfer start time and transfer end time into a transfer duration, reading transfer start time and transfer end time according to the 1st and the 2nd mail, and using transfer end time as e-mail arrival time (S32).

[0040] The above is a procedure at the time of an addressee taking out e-mail. Next, the flow of billing processing is explained. Drawing 8 is the control flow chart of billing.

[0041] The storage region for billing in the storage of an electronic mail center is accessed. First, a bill is drawn up for every ID which should charge a tariff (S40). In the case of the above-mentioned example, the bill of AAA123 and XXX983 is drawn up. Consequently, drawing 9 (a) and a bill as shown in (b) are done.

[0042] Next, the bill in which the purport which reduces the tariff between pin center, large addressees about the mail which this reception ID received is shown is drawn up to the reception ID at the time of asking an addresser for a communication link tariff (S41). Consequently, the bill of drawing 9 (c) is done.

[0043] And the mail transfer from an addresser to an electronic mail center, the tariff about e-mail reception actuation of an addressee, and the above-mentioned communication link tariff (drawing 9 (a) - (c)) concerning e-mail reception are added together at the last, and the bill synthesized for every ID is

drawn up (S42).

[0044] It becomes possible to ask an addresser for the electronic mail communication link tariff between the addresser-addressees of an electronic mail altogether by the above processing if needed.

[Translation done.]

* NOTICES *

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the functional block diagram of this invention.

[Drawing 2] It is the explanatory view of the contents of e-mail of the addresser of one example.

[Drawing 3] It is the explanatory view of e-mail reception of the receiving side of one example.

[Drawing 4] It is the explanatory view of billing in the center of one example.

[Drawing 5] It is a control flow chart at the time of dispatch of one example.

[Drawing 6] It is an arrival-of-the-mail mail outline display-control flow chart to the e-mail addressee of one example.

[Drawing 7] It is the control flow chart with which an e-mail addressee picks out e-mail from the center of one example.

[Drawing 8] There is one with the control flow chart of billing of one example.

[Drawing 9] It is the explanatory view of the amount billed to each user.

[Drawing 10] It is the system configuration Fig. of an electronic mail.

[Description of Notations]

1 Addresser

2 Electronic Mail Center

3 Addressee

4 Tariff Burden Assignment Means

5 Arrival-of-the-Mail Mail Outline Display Means

6 Ejection Mail Assignment Means

7 Billing Means

[Translation done.]

* NOTICES *

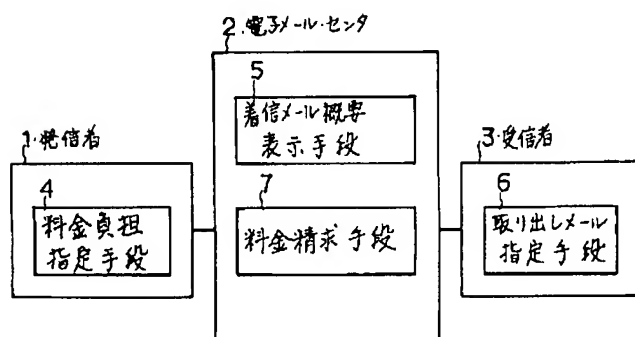
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DRAWINGS

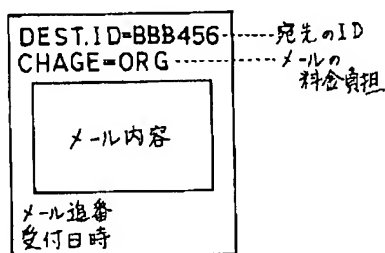
[Drawing 1]

本発明の機能ブロック図



[Drawing 2]

一実施例の発信者のメール内容の説明図



[Drawing 3]

受信側のメール受信の説明図

(a) センターに着信メールの状況を照会した時の表示例

着信メールは3通です。
(着信詳細コマンド投入)

料金負担	1. 0	FROM AAA123	92-1-5	20:15	MNo.24	17LINE
	2. 0	FROM XXX983	92-1-6	08:39	MNo.15	25LINE
	3. D	FROM YYY752	92-1-8	23:18	MNo.158	75LINE
	READ 1.2	(119-7)				

発信者 ID センターへの着信日時 発信者別メール追番 容量

メール概要

(b) 着信確認

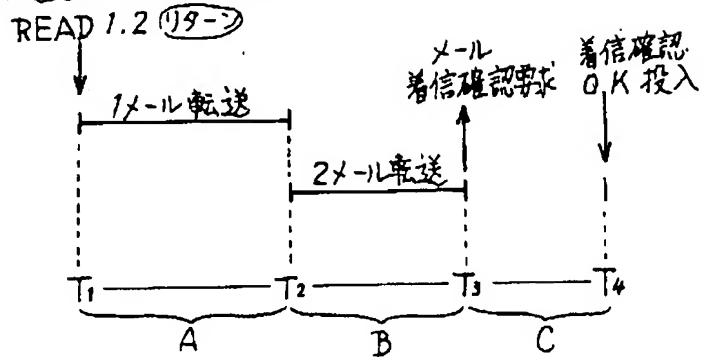
(システムよりメールの着信確認要求)

OK

[Drawing 4]

センターでの料金請求の説明図

(a) 電子メール転送のタイムチャート



(b) 料金請求の記憶例

課金すべきID	発信者別メール番号	受信ID	受信者着信ID	受信所要時間 (分:秒)
ID=AAA123	MNo.24	ID=BBB456	92-01-09 09:21:25	0:20
ID=XXX983	MNo.15	ID=BBB456	92-01-09 09:22:23	0:28

[Drawing 9]

各ユーザへの請求額

(a) ID=AAA123に対するメールのNo.24に対する請求額

No.24	BBB456	92-01-09	09:21:25	0:20
-------	--------	----------	----------	------

(b) ID=XXX983に対するメールのNo.15に対する請求額

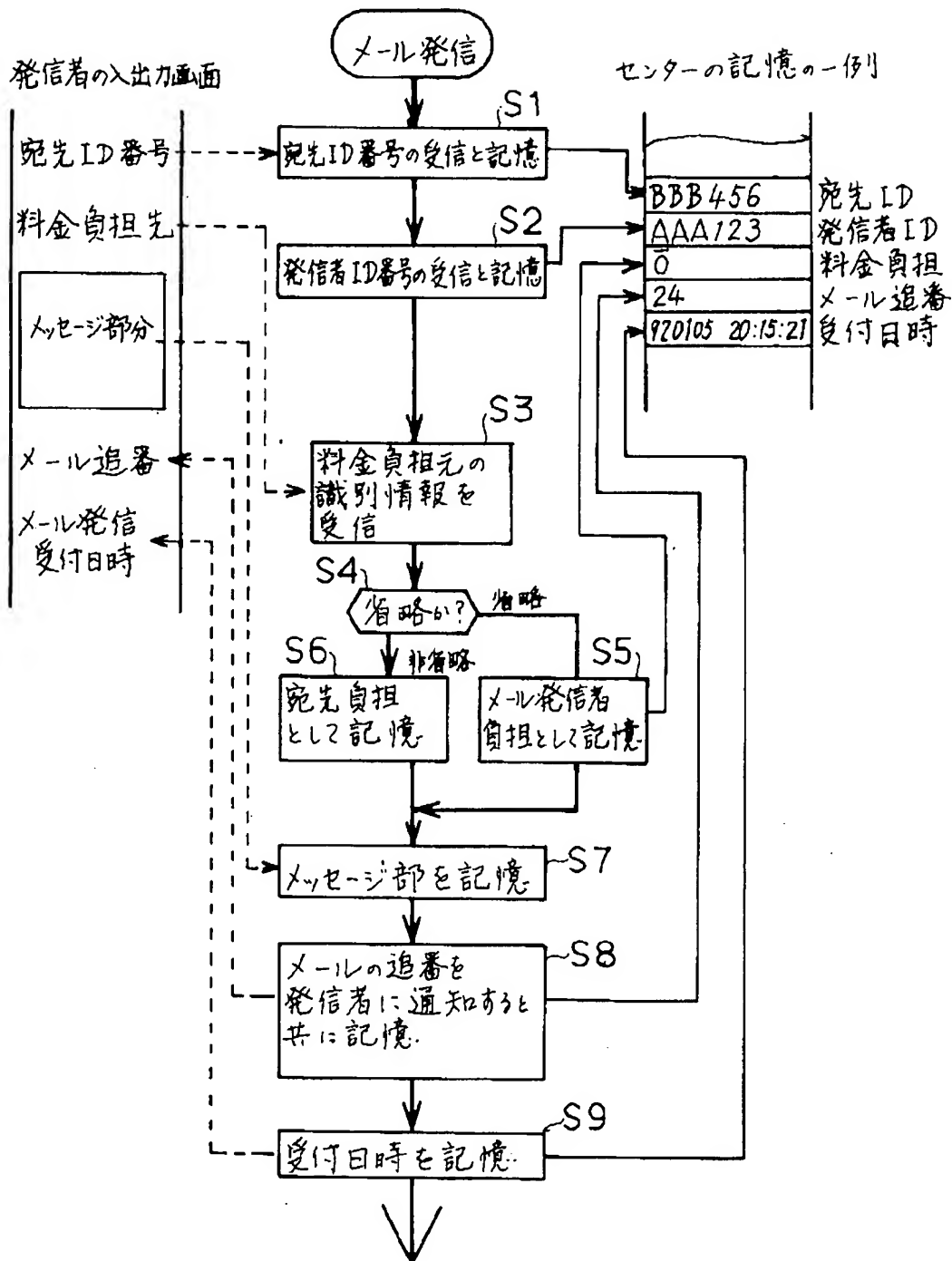
No.15	BBB456	92-01-09	09:22:23	0:28
-------	--------	----------	----------	------

(c) ID=BBB456に対する(AAA123のメールNo.24)に対する支払の請求額

No.24	AAA123	92-01-09	09:21:25	-0:20
No.15	XXX983	92-01-09	09:22:23	-0:28

[Drawing 5]

発信時の制御フローチャート



[Drawing 6]

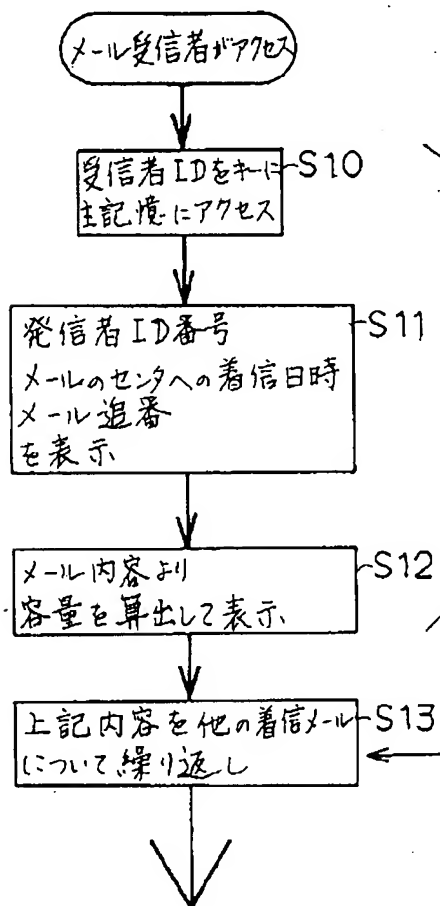
メール受信者への着信メール概要表示制御フローチャート

ID=BBB456の人がセンタにアクセスした時の表示例

0 FROM-AAA123 92-1-5 20:15 MNo.24 17LINE

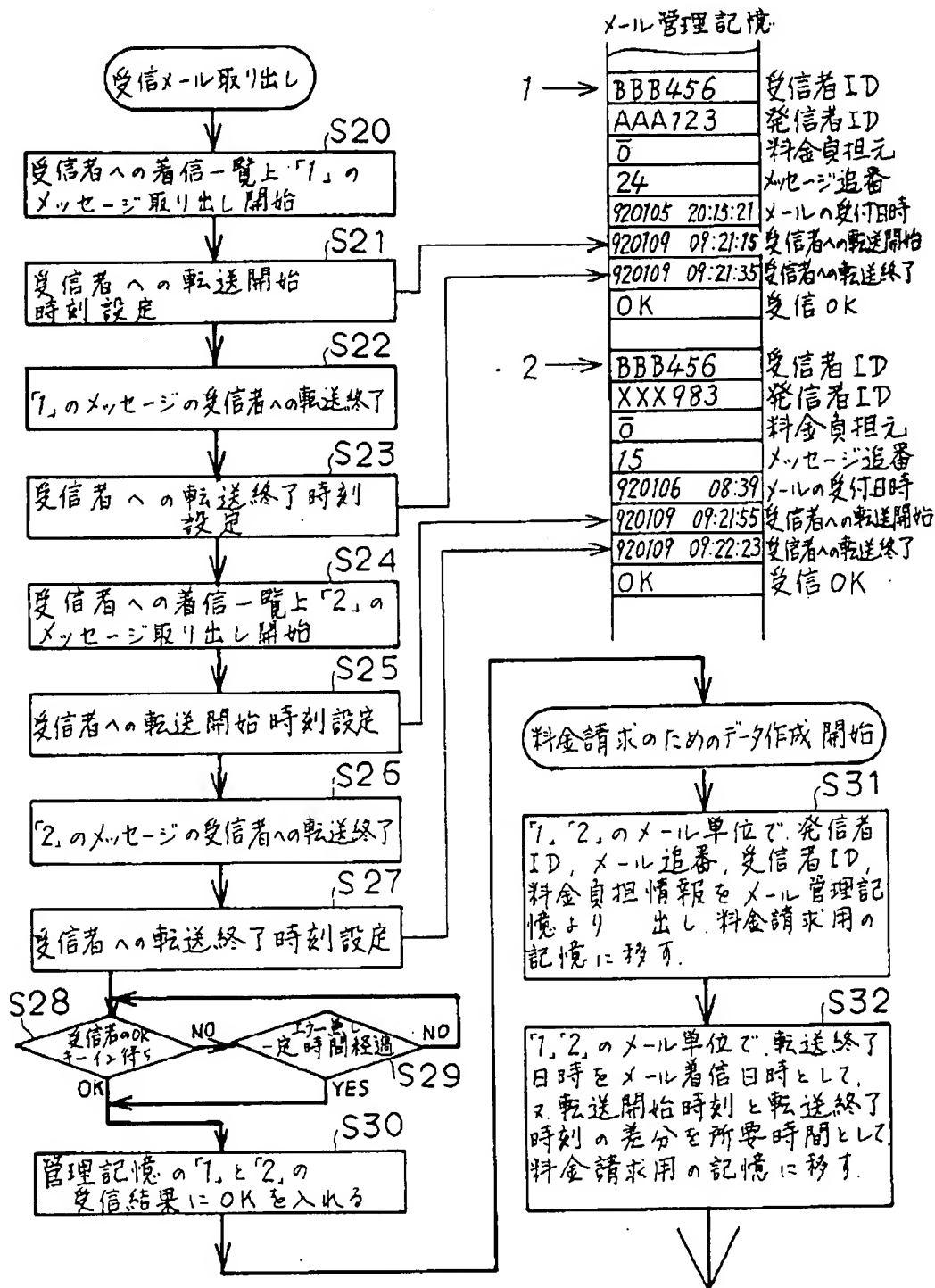
センター記憶の一例

BBB456	受信者ID
AAA123	発信者ID
0	料金負担元
24	メッセージ追番
920105 20:15	メールのセンタへの送信日時

注: 本例では一例として
行数で表示

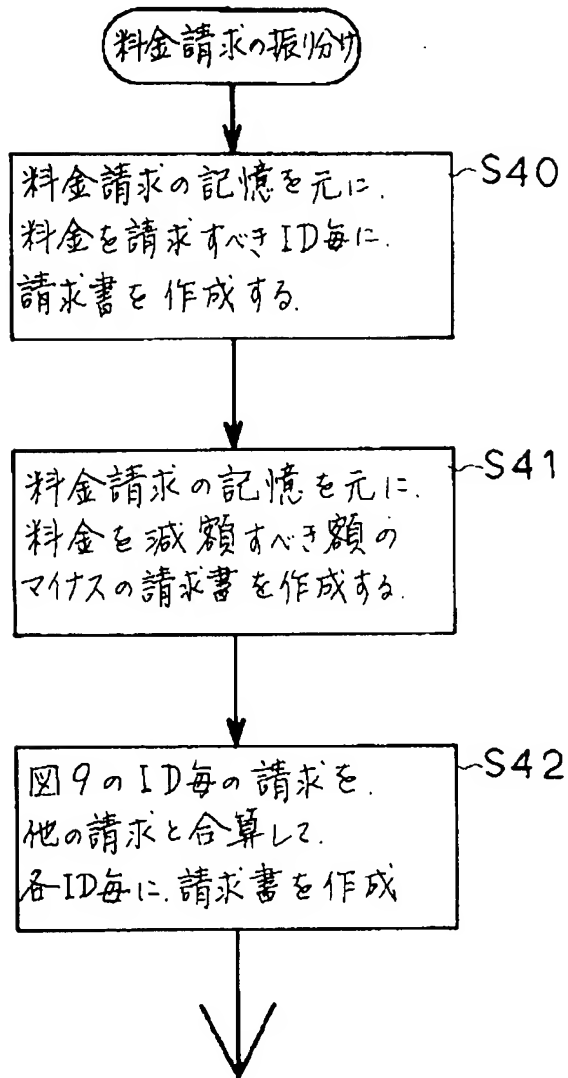
[Drawing 7]

センターからメール受信者がメールを取り出す時の制御フローチャート



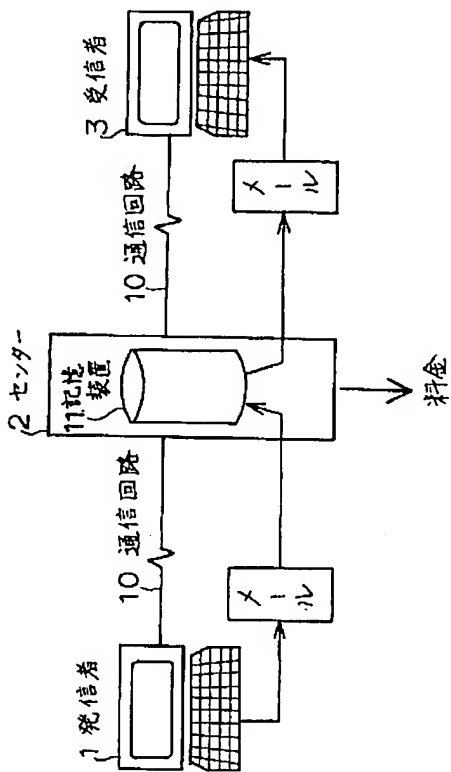
[Drawing 8]

料金請求の制御フローチャート



[Drawing 10]

電子メールのシステム構成



[Translation done.]